Part 7 #28

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: WRIGHT et al.
Appeal No. 2003-0068
Application No. 09/415,696
Filing Date: October 12, 1999

Examiner: J. Pascua
Art Group: 3727

Atty. Docket No. 21276.00.9044

Title: **RECLOSABLE FASTENER PROFILE SEAL AND METHOD OF FORMING A FASTENER PROFILE ASSEMBLY**

DECLARATION OF JOSEPH P. KRAUSE

I, Joseph P. Krause of 532 Gierz Street in Downers Grove, Illinois state that:

1. I am of lawful age, and if called upon to testify, I could and would competently testify to the facts set forth herein.

2. I am a shareholder in the law firm of Vedder, Price, Kaufman and Kammholz, P.C. I am licensed to practice law in Illinois and I admitted to practice before the U.S. Patent Office.

3. U.S. Patent No. 5,071,689 (hereafter the '689 patent) shows that Zip-Pak, Incorporated is the assignee of the '689 patent.

4. The Zip-Pak, Incorporated web site (www.zippak.com) shows several consumer products as having Zip-Pak recloseable seals, including in particular Kraft® cheese packages. Exhibit 1 contains a print out of the home page of www.zippak.com.

5. On September 2, 2003, an associate of Vedder Price randomly selected and purchased five recloseable packages of Kraft® cheese. Figure 1 below shows the recloseable bags in which the purchased cheese was packaged for sale.

Figure 1

6. An inspection of the recloseable bags shown in Figure 1 revealed heat deformation at the ends of the recloseable seals indicating that the recloseable fasteners were spot sealed. Figure 2 below shows the heat-deformation of the seal and bag attributable to spot sealing used in the '689 patent.

Figure 2

7. Five plastic bags having the recloseable seals as claimed in the above-identified patent application that were assembled by hand and obtained from Com-Pac, Inc., which is the assignee of the above-identified patent application. Figures 3 and 4 below show the bags obtained from Com-Pac, Inc.

Figure 3

Figure 4

8. On Friday, September 5, 2003, the bags provided by Com-Pac and the aforementioned Kraft® cheese bags were shipped to Gaynes Labs, Incorporated, which is a company that tests packaging. Gaynes Labs is located at 9708 Industrial Drive in Bridgeview, Illinois. A copy of the Gaynes Labs web site homepage is attached hereto as Exhibit 2. The Gaynes Labs web site is located at: http://www.nrinc.com/gaynes.com.

9. The Com-Pac bags and the Kraft® cheese bags shipped to Gaynes Labs on September 5, 2003 were tested for air leaks by Gaynes Labs according to an industry standard air leak test known as ASTM D3078-02. A copy of the ASTM-D3078-2 test is attached as Exhibit 3.

10. On September 8, 2003, Gaynes Labs provided to Mr. Robert Beiser of Vedder, Price, Kaufman & Kammholz, a written report of its testing of the five (5) Kraft® cheese bags and its testing of the five Com-Pac bags. A copy of the Gaynes Labs report is attached as Exhibit 4.

11. Page 2 of the Gaynes Labs, Inc. report (Exhibit 3) states that the recloseable seals used on each of the Kraft® cheese bags leaked air when the bags were leak tested according to ASTM D3078-02.

12. Page 2 of the Gaynes Labs, Inc. report (Exhibit 3) states that while the hand-made Com-Pac bag bodies leaked air, none of the recloseable seals used on these Com-Pac bags leaked air when the Com-Pac bags were leak tested according to ASTM D3078-02.

I declare under the penalties of perjury, that the foregoing is true and correct.

Dated: Sept 10, 2003

By: Joseph P. Krause
Joseph P. Krause

State of Illinois)

County of Cook)

Before me personally appeared said Joseph P. Krause and acknowledge the foregoing instrument to be his free act and deed this 10th day of September, 2003.

Seal

OFFICIAL SEAL
CHRISTINE WRIGHT
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES 2-20-2006

Christine A. Wright
(Notary)

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We specialize in four resealable/reclosable product categories:

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Minigrip/Zip-Pak is a division of Illinois Tool Works (ITW), a Fortune 300 company.

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- Processors have become savvy in their expectations for ease of use and added ben

These new **Zip-Pak** solutions will facilitate completely new applications for resealable while others will simply enhance the consumer-preferred packaging already used by n

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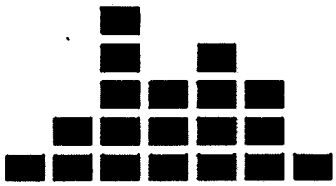

GAYNES LABS, INCORPORATED

Comprehensive Testing Services

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Designation: D 3078 – 02

Standard Test Method for Determination of Leaks in Flexible Packaging by Bubble Emission[1]

This standard is issued under the fixed designation D 3078; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This test method covers the determination of gross leaks in flexible packaging containing a headspace gas. Test sensitivity is limited to 1×10^{-5} atm cm^3/s (1×10^{-6} Pa m^3/s) or even less sensitive as indicated in a recent interlaboratory test (reported in Section 12).

1.2 Small leaks may not be detected by this procedure. Viscoelastic effects on the products, or entrapped air, become significant and prevent passage through small openings. Positive pressure inside the pouch after the vacuum is drawn may force the product to plug small leaks. The size of the leak that can be detected is dependent upon the products contained, the nature of the packaging material, and the test parameters selected.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*

E 425 Terminology Relating to Leak Testing[2]

E 515 Test Method for Leaks Using Bubble Emission Techniques[2]

F 98 Practices for Determining Hermiticity of Electron Devices by a Bubble Test[3]

3. Terminology

3.1 *Definition:*

3.1.1 *leak*—any opening in a flexible package that, contrary to intention, either allows the contents to escape or substances to enter.

4. Apparatus

4.1 *Vacuum Chamber*—Any transparent container capable of withstanding approximately one atmosphere pressure differential, fitted with a vacuum-tight cover. A vacuum gage, an inlet tube from a source of vacuum, and an outlet tube to the atmosphere shall be connected to the chamber cover. The inlet and outlet tubes shall be equipped with hand valves. Attached to the underside of the cover shall be a transparent plate that will closely approximate the inside dimensions of the container and be such a distance from the top of the container that when it is two-thirds filled with fluid, the attached plate will be positioned 1 in. (25 mm) under the fluid.

5. Materials

5.1 *Immersion Fluids*—Use an immersion fluid which does not degrade the package being tested. Fluids with a low surface tension are generally more sensitive. Examples include water, water treated with a wetting agent, denatured alcohol, and mineral oil. Other possible fluids are listed in Test Method E 515 and Practices F 98.

6. Sampling

6.1 The number of specimens used in the test sample may be varied according to the nature of the product, its cost, its size, and whether the specimens are taken from a production line in a normal packaging operation, or are few in number, or are to be used only for purposes of comparative evaluation of procedures or materials.

7. Test Specimen

7.1 *Flexible Package*, with or without its intended contents.

8. Conditioning

8.1 The test sample and test fluid shall be at equilibrium with normal room temperature.

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[1] This test method is under the jurisdiction of ASTM Committee F02 on Flexible Barrier Materials and is the direct responsibility of Subcommittee F02.30on Test Methods.

Current edition approved Dec. 10, 2002. Published February 2003. Originally published in 1972. Last previous edition approved in 1984 as D 3078 – 84.

[2] Discontinued; see *1990 Annual Book of ASTM Standards*, Vol 03.03.

[3] Discontinued; see *1991 Annual Book of ASTM Standards*, Vol 10.04.

9. Procedure

9.1 Submerge the specimen in fluid contained in the vessel within the vacuum chamber. The uppermost surface of the specimen shall be covered by not less than 1 in. (25 mm) of fluid.

NOTE 1—Two or more small packages may be tested at the same time, provided that they are placed in such a manner that all parts of every package under test can be observed for leakage during the test.

9.2 Set the cover on the vacuum chamber, close the outlet valve, and turn on the vacuum so that the gage rises slowly (approximately 1 in. Hg/s) to a selected vacuum level. The vacuum level chosen should be as large as possible in order to ensure optimal sensitivity of the test. Limiting factors will include package fragility, the degree of package expansion, and the test-fluid vapor pressure.

9.3 During the rise in vacuum, observe the submerged specimen for leakage in the form of a steady progression of bubbles from the flexible container. Isolated bubbles caused by entrapped air are not considered as leaks. Also note the approximate increase in package volume. The pressure differential of the test is inversely related to the volume increase of the sample; therefore, large volume increases significantly detract from the severity of the test. Flexible packaging with little or no headspace cannot be reliably evaluated with this test method.

9.4 Hold the vacuum for a specified time period; 30 s is recommended, but this may be set at the tester's discretion.

9.5 Release the vacuum, remove the lid, and examine the specimen for the presence of test fluid inside the specimen.

10. Interpretation of Results

10.1 If there are bubbles definitely attributable to leaks in a specimen during the rise of vacuum, or when held at full vacuum, the specimen fails the test.

10.2 If test fluid attributable to a leak is inside a specimen, the specimen fails the test.

10.3 If there are no bubbles observed attributable to leaks, and if no test fluid attributable to a leak is inside a specimen, the specimen passes the test.

11. Report

11.1 Report the following information:

11.1.1 A statement that the test was conducted in compliance with this test method or a description of the deviations from this test method.

11.1.2 Identification of the specimen and the specific material tested.

11.1.2.1 Identification of the test fluid and the maximum vacuum level employed;

11.1.2.2 A statement regarding the approximate average and range of sample expansions when at maximum vacuum; and

11.1.2.3 The time period held at maximum vacuum.

11.1.3 A statement whether or not leakage occurred, and if possible, a report of the location of each leak.

11.1.4 A statement of the number of specimens included in the test and the number of failures, if any.

11.1.5 When the test is performed to check compliance with requirements, a statement that the sample did or did not meet the requirement, and identification of the source for the requirement.

11.1.6 When the test is conducted to evaluate or compare products, materials, or methods, a statement of any observations that may lead to improvements.

12. Precision and Bias

12.1 An interlaboratory test was conducted to determine each participating laboratory's ability to detect leaks of various sizes when tested at various vacuum levels in accordance with the test method. If a leak was detected, the participant was then asked to quantify the size of the leak by determining the time required to leak ½ mL of air.

12.1.1 Details of the test protocol, including a description of the apparatus, are in preparation and will be available as a research report.

12.1.2 Three laboratories participated with each providing three independent researchers. Each of these tests were replicated three times by each researcher. The same measured leaks and test apparatus were used at each location.

12.1.3 The three vacuum levels tested ("low", "medium" and "high" were relative terms used only to differentiate conditions), were:

Low vacuum	12.5 ± 0.5 in. Hg
Medium vacuum	18.5 ± 0.5 in. Hg
High vacuum	24.5 ± 0.5 in. Hg

12.1.4 The leaks used ("big", "medium," "small" and "very small" were relative terms used only to differentiate variables) were characterized by a helium leak detector as listed below. By most standards, all of these leaks were quite large.

Big	6 E-02 cc/s He
Medium	7 E-03 cc/s He
Small	3 E-03 cc/s He
Very small	1 E-04 cc/s He

12.1.5 Precision, characterized by repeatability, *Sr, r*, and reproducibility, *SR, R* has been determined for the materials as shown in the tables that follow.

12.1.6 Values reported below are in seconds to leak ½ mL of air except for the last material, "very small", which was either reported as bubble produced within 1 min (1) or no bubble produced (0).

12.1.7 Precision Statement for Test Condition: Low Vacuum (12 in. Hg)

Materials	Average	*Sr*	*SR*	*r*	*R*
Big 6E-02	64.778	7.772	14.186	21.762	39.721
Medium 7E-03	181.185	10.653	12.601	29.828	35.284
Small 3E-03	739.148	30.264	100.144	84.738	280.404
Very small 1E-04	0.000	0.000	0.000	0.000	0.000

Under this relatively weak vacuum (12 in. Hg), the "very small" leak at 1 E-04 cc/s Helium did not produce any bubbles within 1 min, which is taken as "non-detectable." All other leaks were easily detected.

12.1.8 Precision Statement for Test Condition: Medium Vacuum (18 in. Hg)

Materials	Average	*Sr*	*SR*	*r*	*R*
Big 6E-02	26.111	2.667	3.918	7.467	10.971
Medium 7E-03	82.111	4.073	6.196	11.406	17.350
Small 3E-03	365.000	18.963	32.549	53.096	91.138

Materials	Average	*Sr*	*SR*	*r*	*R*
Very small 1E-04	0.037	0.192	0.192	0.539	0.539

With this medium level of vacuum (18 in. Hg), the "very small" leak produced a bubble 1 time out of 27 trials. This is essentially "non-detectable." All other leaks were easily detected.

12.1.9 Precision Statement for Test Condition: High Vacuum (24 in. Hg)

Materials	Average	*Sr*	*SR*	*r*	*R*
Big 6E-02	10.481	1.000	2.187	2.800	6.122
Medium 7E-03	30.407	1.678	4.650	4.698	13.019
Small 3E-03	119.037	9.724	24.987	27.227	69.962
Very small 1E-04	0.778	0.000	0.441	0.000	1.235

With this highest vacuum level used (24 in. Hg), the "very small" leak produced a bubble in 78 % of the trials. This seems to indicate that a leak of the size of 1 E-04 is "detectable" most of the time but is close to the detection limit of the method and test conditions.

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September 8, 2003

Vedder, Price, Kaufman & Kammholz
222 North Lasalle Street
Chicago, Illinois 60601

Attention: Mr. Robert Beiser

Regarding: Air-Tightness of Plastic Bags
Our Job No. 03509

Dear Mr. Beiser

This report describes the test procedures and results of the Air-Tightness Tests that were conducted on the following materials:

Five plastic bags with Kraft cheese inside. Three of the bags were labeled: Kraft Mild Cheddar Cheese, Net Wt. 8 oz., Taste Lock Resealable Package, UPC Code No. 211940. Two of the bags the bags were labeled: Kraft Colby & Monterey Jack Cheese, Net Wt. 8 oz., Taste Lock Resealable Package, UPC Code No. 212910. The resealable area on each bag was the ziplock type.

Five empty plastic bags labeled: Fresh Express, The Original Iceberg Garden, Net Wt. 16 oz., Patented Keep-Crisp Bag, UPC Code No. 71279 10402. The resealable area on each bag was the ziplock type.

TEST PROCEDURE:

The tests were conducted based upon ASTM D3078-02 Standard Test Method for Determination of Leaks in Flexible Packaging by Bubble Emission. The cheese products were removed from the kraft bags and discarded. All bags were conditioned at 73°F and 50% R. H. for a minimum of 48 hours prior to testing and all tests were conducted at these conditions.

A 50% ethylene glycol/50% water, room temperature solution was poured into a clear plastic vessel. The vessel was placed into a suitable vacuum chamber with a clear glass door.

Testing was begun by placing a weight pouch inside each bag to be tested. The pouch contained enough weight to keep the bag completely submerged in the immersion fluid during the leakage test.

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TEST PROCEDURE: *(Continued)*

The bag was then sealed as in normal use and submerged in the ethylene glycol solution, inside the chamber, to a minimum depth of 1" above the top of the bag. The chamber door was closed and locked. The vacuum inside the chamber was raised slowly at approximately 1" Hg/s until some type of leakage occurred. The point at which leakage occurred and the type of leakage were reported for each of the ten samples.

TEST RESULTS:

Sample No.	*Failure (In. of Hg)*	*Type of Failure*
Kraft Cheese Bags		
1	15.0	Leakage from the resealable closure
2	14.0	Leakage from the resealable closure
3	13.7	Leakage from the resealable closure
4	14.5	Leakage from the resealable closure
5	14.5	Leakage from the resealable closure
Average	14.3	
StDev	0.5	
Iceberg Garden Bags		
1	15.0	Leakage from the bag body
2	18.0	Leakage from the bag body
3	16.1	Leakage from the bag body
4	15.5	Leakage from the bag body
5	14.5	Leakage from the bag body
Average	15.8	
StDev	1.4	

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GENERAL STATEMENT COVERING THIS REPORT

This report is submitted for the exclusive use of Vedder, Price, Kaufman & Kammholz. Its significance is subject to the representative nature of the samples submitted and the tests and examinations made. No quotations from this report or use of the Gaynes Labs, Incorporated name is permitted except as expressly authorized by Gaynes Labs, Incorporated in writing.

Gaynes Labs. Incorporated assumes no responsibility for the result of the observance or non-observance by Vedder, Price, Kaufman & Kammholz of the product standard contained in this report or upon the relations between Vedder, Price, Kaufman & Kammholz and any party or parties arising out of the sale or use of the product or otherwise.

Vedder, Price. Kaufman & Kammholz shall indemnify and hold harmless Gaynes Labs, Incorporated, its employees and agents from any and all claims, demands, actions, and costs that may arise out of:

(a) Any dangerous defect or content in the item being tested, whether apparent or not, which dangerous defect or content was not disclosed in writing to Gaynes Labs, Incorporated by Vedder, Price, Kaufman & Kammholz at the time the item was submitted for testing;

(b) Differences between those items actually tested and items previously or subsequently produced which are purported to be identical to the item tested;

(c) Any use of the tested item, whether by Vedder, Price, Kaufman & Kammholz or a third party, following its return to Vedder, Price, Kaufman & Kammholz from Gaynes Labs, Incorporated.

Please contact me if you have any questions regarding the information provided.

Very truly yours,

Philip D. Ross